

CLAIMS:

1. A system for joining an appliance body (12) having a driving assembly (13) therein to a driven member assembly (15) which includes a workpiece element (26) having a torsional axis of movement, comprising:
a plurality of joining assemblies for removably attaching said driven member assembly to said appliance body, wherein the joining assemblies are each separate from the torsional axis of the workpiece element, wherein the joining assemblies each include a mating member (43) on one of a) the appliance body or b) the driven member assembly and an associated receiving element (46) on the other thereof, wherein the mating members and the receiving elements have such a configuration, respectively, and mate in such a manner that there is substantially no lost motion for the workpiece element during operation of the appliance and such that the driven member assembly is readily removable from the appliance body.
2. A system of claim 1, wherein the configuration of the mating members and receiving elements is such that compression forces sufficient to maintain contact therebetween are always present during torque action of a drive shaft on which the workpiece is mounted.
3. A system of claim 1, including three spaced joining assemblies (37, 38, 39) located around the periphery of the interface between the appliance body and the driven member assembly.
4. A system of claim 1, wherein the mating member of each joining assembly has a non-circular cross-section and the associated receiving element has a similar non-circular cross-section, such that the receiving element and the mating member are capable of mating together.
5. A system of claim 1, wherein the appliance body and the driven member assembly, respectively, include a handle portion and a head portion of an oral care appliance.
6. A system of claim 5, wherein the oral care appliance is a power toothbrush.
7. A system of claim 1, including registration elements (51, 53) on the appliance body which mate with the driven member assembly, the registration elements producing a proper orientation between the appliance body and the driven member assembly as the appliance body is joined to the driven member assembly.

8. A system of claim 1, wherein the mating member extends from the appliance body and the receiving element is in the driven member assembly.

9. A system of claim 1, wherein the mating members comprise spaced blade elements in the appliance body and the receiving elements comprise spring assemblies which clamp onto the blade elements with a compression force.

10. An oral care appliance, comprising:

an appliance body (12) having a driving assembly (13) therein;

a driven member assembly (15) which includes a workpiece element (26) having a torsional axis of movement and wherein the workpiece element includes a brushhead (30); and

a coupling structure for joining the appliance body to the driven member assembly, the coupling structure including a plurality of joining assemblies for removably attaching the driven member assembly to the appliance body, wherein the joining assemblies are each separate from the torsional axis of the workpiece element, wherein each joining assembly includes a mating member (43) from one of a) the appliance body or b) the driven member assembly and an associated receiving element (46) in the other thereof, for receiving said mating member, wherein the mating members and the receiving elements have such a configuration, respectively, and mate in such a manner that there is substantially no lost motion for the workpiece element during operation of the appliance, and such that the driven member assembly is readily removable from the appliance body.

11. An appliance of claim 10, including three spaced joining assemblies (37, 38, 39) arranged around the periphery of the interface between the appliance body and the driven member assembly.

12. An appliance of claim 10, wherein the mating member of each joining assembly has a non-circular cross-section and the associated receiving element has a similar non-circular cross-section, such that the receiving element and the mating member are capable of mating together.

13. An appliance of claim 10, wherein the mating member extends from the appliance body and the receiving element is in the driven member assembly.

14. An appliance of claim 10, wherein the mating members include spaced blade elements in the appliance body and the receiving elements comprise spring assemblies which clamp onto the blade elements with a compressive force.

15. A brushhead assembly portion of a power toothbrush which is joinable to and removable from a handle portion of the toothbrush by a plurality of joining assemblies, the joining assemblies being separate from a torsional axis of movement of a brushhead workpiece portion of the brushhead assembly, comprising:

a brushhead assembly which includes a brushhead workpiece element, wherein the brushhead assembly includes a plurality of joining members which mate with associated second joining members in the handle portion to form joining assemblies, wherein the first joining members have such a configuration, relative to the configuration of the associated second joining members and mate therewith in such a manner that there is substantially no lost motion of the workpiece element during operation of the toothbrush and such that the brushhead assembly is readily removable from the handle portion of the toothbrush.

16. A brushhead assembly portion of claim 15, wherein the configuration of the first joining member and the second joining members are such that compression forces sufficient to maintain contact therebetween are always present during torque action of a drive shaft on which the workpiece portion is mounted.